

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed January 30, 2004. At the time of the Office Action, Claims 1-28 were pending in this patent application. The Examiner rejected Claims 1-28. Of these, Claims 1, 12, 20 and 25 are independent. Applicants respectfully request reconsideration and favorable action in this case.

35 U.S.C. §103 Rejections

Claim 1 stands rejected under 35 USC 103(a) over Miskimins et al. (U.S. Pat. No. 6,230,109) (“Miskimins”). Applicants respectfully traverse this rejection, and the assertions and determinations therein, for at least the following reasons.

Claim 1 recites, in part, “a wiring fault detection unit that is adapted to be coupled to the protocol bus to measure an electrical characteristic associated with the protocol bus” and “a wiring fault diagnostic manager communicatively coupled to the wiring fault detection unit that uses the measured electrical characteristic to determine a type of the wiring fault.” Miskimins does not teach or suggest these elements of Claim 1. Miskimins involves a digital cable tester that “can run a simple continuity test” to “manifest and detect short-duration faults (opens and shorts)” and “locate the pin or pins in a connector that produced faults”. Miskimins, col. 2, lines 36-44. Miskimins appears to be generally directed to vibrating cables to identify intermittent physical wiring faults, such as opens and shorts. Miskimins, col. 4, lines 33-37. Applicants respectfully submit that the mere determination of whether a wire has a physical short or open completely fails to teach or suggest measuring “an electrical characteristic associated with the protocol bus” because detecting simple physical wire faults does not teach or suggest anything related to data protocols. Indeed, Miskimins describes itself as running “a simple continuity test”. Miskimins, col. 2, lines 38-40. Further, no determination of a type of a fault related to a data protocol is made by the detecting the simple physical faults of Miskimins.

Thus, Miskimins does not teach or suggest every element of Claim 1. Therefore, Claim 1 is patentable over the cited reference and Applicants respectfully request allowance of Claim 1.

Claims 2-28 stand rejected under 35 USC 103(a) over Miskimins in view of Mavretic (U.S. Pat. No. 6,230,109) ("Mavretic"). Applicants respectfully traverse this rejection, and the assertions and determinations therein, for at least the following reasons.

Independent Claim 12 recites, in part, "measuring an electrical characteristic associated with the protocol bus using the one of the plurality of measurement blocks", "a wiring fault detection unit including a plurality of measurement blocks", and "connecting a signal line of the protocol bus to one of the plurality of measurement blocks". Neither Miskimins nor Mavretic teaches or suggests these elements of Claim 12. The Examiner appears to rely solely on Miskimins with respect to Claim 12. Miskimins does not teach or suggest these elements of Claim 12 for reasons analogous to those discussed above in association with Claim 1. Further, Miskimins does not teach or suggest a "plurality of measurement blocks". Miskimins appears to provide only continuity testing for opens and shorts in a wire. Miskimins, col. 4, lines 21-31. Miskimins does not appear to provide multiple types of tests or the ability to use or select a particular one of multiple tests. Therefore, Miskimins does not teach or suggest "using the one of the plurality of measurement blocks" because Miskimins does not support, teach or suggest a wiring fault detection unit that has a variety of testing capabilities. Further, Mavretic does not teach or suggest these elements of Claim 12, nor does the Examiner rely upon Mavretic for these elements.

Thus, neither Miskimins nor Mavretic teaches or suggests every element of Claim 12. Therefore, Claim 12 is patentable over the cited references and Applicants respectfully request allowance of Claim 12.

Independent Claims 20 and 25 are patentable over Miskimins and Mavretic for at least reasons analogous to those presented above in association with Claims 1 and 12. Therefore, Applicants respectfully request allowance of independent Claims 20 and 25.

Dependent Claim 2 depends from independent Claim 1. Claim 2 recites, in part, "a linking device that enables a controller to communicate with the plurality of smart field devices, and wherein the wiring fault detection unit resides within the linking device." Neither Miskimins nor Mavretic teaches or suggests every element of dependent Claim 2. The Examiner relies solely upon Mavretic with respect to Claim 2. Office Action, p. 3, paragraph 3. Applicants respectfully submit that Mavretic in no way teaches or suggests "smart field devices". Mavretic generally involves measuring electrical characteristics

between a power source and a load at a set of harmonic frequencies to determine information about the load. Mavretic, col. 2, lines 19-25. Mavretic does not appear to involve "smart field devices" because no intelligence or processing capability is attributed to a device being communicated with or measured by Mavretic. For example, Applicants have described smart field devices, in at least one embodiment, as "microprocessor-based devices such as sensors, actuators, etc. that, in some cases, such as with Fieldbus devices, also perform some control loop functions traditionally executed by a DCS controller" and Mavretic's basic testing of purely physical characteristics in no way teaches or suggests such smart field devices. Applicants' Specification, pages 1-2; Mavretic, col. 2, lines 19-39. Further, one of skill in the art would not be motivated to even consider "smart field devices" based on the simple physical characteristics discussed in Mavretic.

Thus, neither Miskimins nor Mavretic teaches or suggests every element of Claim 2. Therefore, Claim 2 is patentable over the cited references and Applicants respectfully request allowance of Claim 2.

Dependent Claims 2-11 depend from independent Claim 1, dependent Claims 13-19 depend from independent Claim 12, dependent Claims 21-24 depend from independent Claim 20 and dependent Claims 26-28 depend from independent Claim 25. Independent Claims 1, 12, 20 and 25 have been shown above to be allowable. Thus, dependent Claims 2-11, 13-19, 21-24 and 26-28 are patentable as depending from an allowable base claim and as including further distinctions over the cited references. Therefore, Applicants respectfully request allowance of dependent Claims 2-11, 13-19, 21-24 and 26-28.

CONCLUSION

Applicants have now made an earnest attempt to place this case in condition for immediate allowance. For the foregoing reasons and for other reasons clearly apparent, Applicants respectfully request reconsideration and allowance of Claims 1-28.

Although Applicants believe that no other fees are due, the Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 13-2855 of Marshall, Gerstein & Borun LLP. In addition, if a petition for an extension of time under 37 CFR 1.136(a) is necessary to maintain the pendency of this case and is not otherwise requested in this case, Applicants request that the Commissioner consider this paper to be a request for an appropriate extension of time and hereby authorize the Commissioner to

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charge the fee as set forth in 37 CFR 1.17(a) corresponding to the needed extension of time to
Deposit Account No. 13-2855 of Marshall, Gerstein & Borun LLP. A copy of this paper is
enclosed herewith.

If there are matters that can be discussed by telephone to further the prosecution of
this application, Applicants respectfully request that the Examiner call its attorney at the
number listed below.

Respectfully submitted,

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